Title (en)

METHOD FOR TRANSFERRING A USEFUL LAYER TO A CARRIER SUBSTRATE

Title (de)

VERFAHREN ZUR ÜBERTRAGUNG EINER NUTZSCHICHT AUF EIN TRÄGERSUBSTRAT

Title (fr)

PROCEDE DE TRANSFERT D'UNE COUCHE UTILE SUR UNE SUBSTRAT SUPPORT

Publication

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Application

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Abstract (en)

[origin: WO2020188169A1] The invention relates to a method for transferring a useful layer to a carrier substrate, comprising the following steps: a) providing a donor substrate comprising a buried weakened plane, the useful layer being delimited by a front face of the donor substrate and the buried weakened plane; b) providing a carrier substrate; c) joining the donor substrate by its front face to the carrier substrate along a bonding interface to form a bonded structure; d) annealing the bonded structure to apply a weakening thermal budget thereto and bring the buried weakened plane to a defined level of weakening, said anneal reaching a maximum hold temperature; e) initiating a splitting wave in the buried weakened plane by applying a stress to the bonded structure, the splitting wave propagating along the buried weakened plane in a self-sustained manner to lead to the useful layer being transferred to the carrier substrate. Step e) is initiated when the bonded structure experiences a thermal gradient defining a hot region and a cool region of said bonded structure, the stress being locally exerted in the cool region, and the hot region experiencing a temperature lower than the maximum hold temperature.

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